TRU TeamWorks

August 3, 2006

WIPP Laboratories identifies all isotopes in “dirty bomb” soil sample

WIPP Laboratories is the “bomb” when it comes to radiochemistry analyses. By taking existing technology for isotopic separation and making it more efficient, the WTS radiochemistry group recently accomplished an analytical feat that no lab in the country has been able to match.

WTS General Manager Dick Raaz presented achievement awards to the radiochemistry group on July 24. Also pictured (l to r) are Mansour Akbarzadeh, Joe Ortiz, Okka Maung, Ginny Whiteford, Joe Fraire and WTS Safety & Health Manager Craig Herndon.

Every year, the U.S. Department of Commerce creates isotope-spiked samples of soil, water, air or synthetic urine to simulate materials that might result from a dirty bomb attack. The samples are then distributed to participating labs to analyze – and analyze quickly. In keeping with the dirty bomb scenario, Mansour Akbarzadeh, the lab’s manager, says that very little notice is given before the test samples arrive. Lab employees must be prepared to drop everything at a moment’s notice and possibly work through the night until results are obtained.

Response time is critical during a national emergency. Radiological Assistance Program teams and other responders need to know as quickly as possible what isotopes they are dealing with and at what activity levels. Results are expected to be finalized and reported within eight hours.

According to Akbarzadeh, radiochemical analyses are not known for being quick or easy. Normal turnaround time for determining gamma, alpha and beta emitters on one set of samples usually takes weeks at a minimum. Reporting results in only eight hours required the WIPP Radiochemistry Group to rethink the way things are done in the lab.

Each step in the process was reviewed and made more efficient to develop a new procedure. The group determined the optimum amounts of reagents and resin to use in the separation process, without sacrificing quality. Samples columns were put under vacuum to draw the sample through much quicker. Instrument counting times were cut to the lowest possible without significantly increasing result uncertainty.

This year’s emergency soil test sample was delivered to WIPP Laboratories by Fed Ex at 3:15 p.m. on May 24. By 11:00 p.m. , all gamma results had been reported. After a short rest for safety’s sake, the analysis continued. By 3:00 p.m. the next day, WIPP Laboratories had results for isotopes of americium, uranium, plutonium and thorium.

WIPP Quick Facts
(As of 08-02-06)

4,874
Shipments received since opening

40,242
Cubic meters of waste disposed

81,141
Containers disposed in the underground

WTS awards container contracts

WTS has awarded contracts to manufacture steel containers that will be used to dispose of TRU waste at WIPP.

Peterson, Inc. of Ogden, Utah, was awarded a contract with a potential value of over $13 million for the construction of two types of disposal containers. The Type A containers are designed to fit inside a Nuclear Regulatory Commission-certified shipping cask for transport. At WIPP, the containers are removed from the shipping cask for final disposal 2,150-feet underground. The initial contract is to be performed over a 12-month period, and includes four one-year options.

A second contract was awarded to Washington Government Technical Services/Engineered Products Department (WEPD) to construct steel containers, lifting fixtures and the adapters needed to safely handle the steel containers. WEPD is a precision metals fabricator and machining facility located in Carlsbad, N.M. The company manufactures containers for the nuclear and hazardous materials industry. The WEPD contract includes four one-year options with a potential value of more than $5 million.

Not only were the results obtained quickly, Akbazadeh says they were also accurate. All were very close to the known values, given the time restriction – within 12 percent of the NIST reference values for gamma-ray emitting nuclides and uranium isotopes and within 36 percent for plutonium and americium radionuclides.

This is the first time in the Department of Commerce's program that any lab has been able to report all the isotopes in a soil sample for emergency sample, which many consider one of the more difficult matrices. Dick Raaz, WTS president and general manager, presented members of the Radiochemistry Chemistry Group with achievement awards on July 24.

WIPP Laboratories is now refining the research and development for a new procedure to make it a part of daily laboratory tasks.

Corporate Board meets at Oak Ridge National Laboratory

Close to 100 people from around the National TRU waste complex enjoyed some Tennessee hospitality in July at a two-day meeting of the National TRU Waste Corporate Board in Oak Ridge.

The Oak Ridge Reservation TRU Waste Processing Center.

A stand-in canister shows how RH waste will be loaded from a sludge dryer at the Oak Ridge Reservation TRU Waste Processing Center.

Glove boxes used for waste characterization in the Oak Ridge Reservation TRU Waste Processing Center.

In addition to great barbecue, participants enjoyed an informative tour of the TRU Waste Processing Center at the Oak Ridge Reservation. The center will repackage and characterize contact- and remote-handled waste and is approaching readiness for WIPP certification.

In welcoming remarks, Dr. Inés Triay, chief operating officer for the DOE's environmental management program, outlined a recent headquarters reorganization and discussed WIPP shipment priorities, with an eye on sustaining a 30-shipment-per-week rate and meeting site cleanup agreements.

She also kicked off sessions highlighting the current development of a DOE standard for TRU waste authorization basis, which will bring consistency to hazard identification and analysis around the complex.

Dr. Dave Moody, CBFO manager, discu ssed WIPP readiness for the receipt of remote-handled waste and gave an update on the status of the Section 311/RH

Ron Gentry, operations manager, shows tour participants the tear down area.

state permit modification request and the TRUPACT-III shipping container.

Kerry Watson, CBFO senior technical advisor, outlined a path forward for implementation of the permit modifications, if approved, with a special emphasis on maintenance of shipment rates during the transition into new characterization requirements.

CBFO's Casey Gadbury outlined key performance indicators, and Dennis Ashworth, director of the EM Office of Transportation, gave an office overview.

Site representatives provided updates on activities and plans for the future.

Corporate board meetings provide an opportunity to not only discuss TRU waste issues and make recommendations, but for participants to network and benefit from lessons learned at other sites.

Submitted by Victoria Parker (LANL)

CBFO system receives 'Green' rating

CBFO's Facility Information Management System (FIMS) data validation process received a 'green' rating from the Office of Engineering and Construction Management Facilities and Infrastructure Team. It is the first green rating to be received by any Environmental Management (EM) site to date.

David Black (WTS), FIMS system administrator, said there are three kinds of ratings that are given out, and green is the highest. CBFO received a green rating in 23 FRPC categories.

Black said the reason FIMS validation is important is that it ensures data accuracy and a level of confidence. Also, accurate real property inventory is a key requirement of the President's management agenda, is a DOE Scorecard item and FIMS is used on a daily basis to make real property management decisions.

Receiving a green rating demonstrates that the project is performing these aspects correctly and can continue doing a good job.

The validation efforts, which were completed in June, focused on the Federal Real Property Asset Management (FRPC) data elements, which are elements within the FIMS database.

Remote-Handled Waste Series

The RH inventory

The states of Washington, Idaho, California, New Mexico, Illinois, Ohio, Pennsylvania, New York, Tennessee and South Carolina now store inventories of defense-related, remote-handled (RH) transuranic (TRU) waste. Enter WIPP.

Part of WIPP's continuing mission is to cleanup and dispose of the nation's RH TRU waste. About 12 sites around the country are temporarily storing RH TRU waste. Site inventories vary considerably, ranging from about two cubic meters of waste at the Bettis Atomic Power Laboratory to more than 4,000 cubic meters at Hanford.

"Inventory is in a constant state of change," says Sheila Lott , inventory team member, LANL. "We learn more about the waste as it is being characterized. Some waste may need repackaging or be determined to be low-level and not acceptable at WIPP."

The total amount of RH TRU waste anticipated at WIPP is about 7,367 cubic meters. That includes RH waste that has already been generated and is currently stored at sites around the country, as well as just over 2,000 cubic meters of waste that are projected to be generated in the next 27 years.

WIPP RH-TRU Waste Anticipated Inventory By Site in cubic meters (Source: Los Alamos National Laboratory)			
Site_Name	Total Stored	Total Projected	Total Anticipated
Argonne National Laboratory - East	15.1	104.1	119.3
Battelle Columbus Laboratories (Already shipped to the Hanford Site and the Savannah River Site)	46.3	0.0	46.3
Bettis Atomic Power Laboratory	2.0	0.0	2.0
Energy Technology Engineering Center (Already shipped to the Hanford Site)	5.0	0.0	5.0
Hanford Site	4,848.7	1,086.7	5,935.4
Idaho National Laboratory	219.1	0.0	219.1
Knolls Atomic Power Laboratory - Schenectady	0.0	135.3	135.3
Los Alamos National Laboratory	124.6	0.0	124.6
Materials Fuels Complex (formerly Argonne National Laboratory – West, now part of Idaho National Laboratory)	24.0	68.5	92.6
Oak Ridge National Laboratory	0.0	660.4	660.4
Sandia National Laboratories	4.6	0.0	4.6
Savannah River Site	0.0	22.6	22.6
Totals	**5,289.5**	**2,077.6**	**7,367.1**

RH waste has already been removed from two sites: the Energy Technology Engineering Center (ETEC) in California and Battelle Columbus Laboratories (BCL) in Ohio . Waste from these two sites was not shipped directly to WIPP, but rather ETEC shipped all of its RH TRU waste to the Hanford Site, and BCL sent two shipments to the Hanford Site and the remaining shipments to the Savannah River Site. Eventually, this waste is expected to be shipped to WIPP for final disposal.

Safety and Quality teaming up

Just like safety, quality is each person's responsibility. To emphasize that fact, WTS Safety and WTS Quality Assurance are teaming up to spread the message that both functional areas work hand-in-hand. At WIPP, all employees are aware of the emphasis placed on performing our job safely, but we also need to perform each job compliantly and correctly to get it done right the first time.

"The difference between a satisfactory performance and great performance is always evident in quality and safety," says WTS General Manager Dick Raaz. "In our business, success is impossible without both."

Craig Herndon, WTS Safety and Health manager, and Jon Hoff, WTS Quality Assurance manager, are spreading the word with new banners posted in the underground and on the surface at the site.

WTS Safety and Health Manager Craig Herndon and WTS Quality Assurance Manager Jon Hoff.

"You can't have a safe job without having a quality job, and you can't have a quality

job without having a safe job," says Herndon. "The two go hand in hand."

"Safety and Quality are a natural fit," adds Hoff. "WIPP is not only recognized within the DOE complex for its safety record, but for its quality record, too."

Brochures and hard hat stickers with the Safety-Quality message are being distributed. Additional items will be given out in the future to remind employees of the importance of these goals.

How do we measure success? If we safely complete our jobs while meeting applicable requirements and the end product is a quality product or service, we have succeeded.

Submitted by Bill Allen (WTS)

Happy Birthday Wishes!

Gene Valett (WRES)
August 2

Wes Boatwright (WRES)
August 7

Debbie Martin (NCI)
August 8

John Lucero (NCI)
August 9

Ann Morissette (WTS)
August 10

Bruce Faulk (WTS)
August 10

Lisa Roback (Triumph)
August 11

Katie Chester (Triumph)
August 12

Al Tornabene (L&M)
August 13

Marian Borkowski (LANL)
August 15

Is your birthday on our list? Employee birthdays are submitted once and must be re-approved for publication by you every year. Please submit birth dates to the TRU TeamWorks staff at: TRUTeamWorks@wipp.ws.

Warehouse 101

Need something from the warehouse, but don't know how to get it? You've got four ways to make it happen, all of which are described below.

Inventory Issuance Ticket

If you need an item that the warehouse stocks and re-orders on a routine basis (consumables or spare parts), you may pick it up at the warehouse by providing a cost account number and signing a ticket. Please note that consumable and electrical items cannot be returned.

Credit Card Orders

A trained and qualified person can buy goods and services on a P-Card or a Q-Card. Only the cardholder, or the cardholder's approving official, may pick up the order when notified by Inventory Control personnel.

Purchase Orders

A trained and qualified requisitioner can buy goods and services through the Integrated Financial Management System (IFMS). The requisitioner, or approving manager, can sign to receive the item from Inventory Control personnel once all inspections (if required) have been completed.

Off Shift Emergency Needs

If a spare part or consumable is needed off hours, contact Security for escorted access to the warehouse. Complete the manual Stores Inventory Form (Attachment 4 to WP 15-PM3517) with Security and leave it on the counter located inside the warehouse.

If you need additional information about getting items from the warehouse, there are two key procedures that you can read. WIPP procedure WP 15-PM3517, *Stores Inventory Control*, provides detailed guidance on withdrawing material from the warehouse. WIPP procedure WP 15-PM3518, *Material Receiving*, provides detailed guidance on obtaining material from the warehouse that is purchased on a credit card or purchase order.

Please remember not to remove any material or equipment that has a Quality Assurance (QA) Hold Tag, Pending Receipt Inspection Tag or any other type of restricted tag attached to it from the warehouse or an area designated by the warehouse. If you are not sure if you have the authority to remove the equipment or if you have any other questions, contact your management, QA or Inventory Control.

Submitted by Ann Morissette (WTS)

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The U.S. Department of Energy
Waste Isolation Pilot Plant

Please send comments and/or suggestions to: TRU TeamWorks